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THE INFLUENCE OF HEREDITY ON IDIOCY.

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Throughout the history of education and of medicine no point has so engaged the attention of the philosopher and the scientist as the influences of environment and heredity. These influences upon our physical being, repeated through successive generations, resolve themselves into law, a law as unalterable as that of the Medes and Persians—a law founded upon fundamental truths and verified in the experiments of physiological science.

The aim of educational and medical science is one, viz., to secure to the individual a sound mind in a sound body, so that all that touches one must find its prototype in the other. In this more than aught else, if one member suffer, all the members suffer with it.

This law of balance and proportion we recognize in the forces of Nature, in the applied arts and sciences, and we are quick to note the evil effect of the least deviation from this rule.

In a nature so complex as man—a mechanism so finely ordered—none deny that the same principle is but intensified.

Here, therefore, in natural sequence, the psychological follows the physiological research, nay rather joins hands in this effort to restore health to the mind or to prevent degeneration; and, acknowledging the sins of the father transmitted in the body to the third and fourth generations, would fain seek in the springs of life itself the influence of heredity upon the mind—the secret and causes of idiocy. Most arrogantly we call ourselves "the heirs of all the ages" in all good gifts, but we are slow to acknowledge the serpent's trail in our Eden. Our vanity is sensitive, and recoils naturally from the thought of blemish in our own—physical or mental—an ancestry, either ignoble or unfortunate. We do not, and we will not, except under protest, receive the law of heredity of ill.

Convinced that it is logical, still we seek proof in statistics. The gathering of statistics under these circumstances is difficult. Parents and friends are loath to accept such evidence, and, actuated by false shame, still more loath to impart information, especially when there is neurotic taint. The physician in many cases, feeling that he is betraying a confidence, keeps no record, and the literature on the subject becomes, therefore, most meagre. Thus, when we begin to sift the matter as we should like, we are frequently unable to verify our conclusions. So in many cases the causes of idiocy remain unexplainel, closeted within the secret recesses of nature.

But the field of research, with all its difficulties, is broad and is practically unexplored. Before going into statistics, however, let us consider for a brief space opinions of deep thinkers on this subject.

Mercier says: "The first and most fundamental law of heredity is that every attribute of the parents tends to be inherited by the offspring. Inheritance is the law, non-inheritance the exception." You will observe that he does not say they are, but that they tend to be inherited, and the question therefore resolves itself into this, either the offspring does or does not resemble its ancestors. If the former, then there is an hereditary law; if the latter, there is not.

Strong as this is we find in Montaigne a stronger thought:

"Is it not marvelous that this drop of seed from which we are produced should bear the impression not only of the bodily form, but even of the thoughts and inclinations of our fathers? Where does this drop of water keep this infinite number of forms? and how does it bear these likenesses through a progress so haphazard and so irregular that the great-grandson shall resemble the great-grandfather?"

Blandford says: "Two laws of nature are concerned in the production of these phenomena. One is that peculiarities and abnormalities are apt to recur in descendants for many generations; the other, that there is always a tendency to return to the type of health in beings which have sufficient vitality to perpetuate their existence and carry on their race for successive generations."

We do not always produce an idiot from a neurotic family.

Again, one or even more of a family may be insane or idiotic, the others normal, showing the taint concentrated, due possibly to surrounding conditions and temperament of parents at time of conception combined with pre-natal influences upon the mother.

Thus every idiotic child bears the mark of some inherited tendency from some ancestor.

I will here cite a case among my own patients, where a male idiot born of imbecile parents possesses the face and form of the mother with the disposition of the father, a type of both physical and moral imbecility.

Neuroses are frequently interchangeable in transmission from generation to generation, and there are two great laws—the reversion to the original healthy and perfect type when the taint is less noticeable in generations until it at last is not found at all; or it becomes more pronounced, and a simple nervous disease may appear in successive generations in the form of a pronounced neurosis.

From Ireland we have the following: "Of all known diseases perhaps idiocy is most frequently propagated by heredity."

Moreau, of Tours, affirmed that heredity was found in nine-tenths of his cases, but gave no statistics.

According to George Wallington Grabham, heredity is the chief agent in the production of idiocy. Although in his statistics he collects but 18 per cent., he is convinced that the taint exists in a far greater proportion.

Dr. Shuttleworth, in a recent personal letter, writes: "My opinion is that heredity plays a very important part in the production of idiocy, though we cannot prove the frequency by statistics so completely as the fact is impressed on one's mind by intercourse year after year with the relations of acknowledged idiots and imbeciles.

"Taking only the friends' statements, we should be much misled, and for that reason I declined when at the Royal Albert Asylum to publish each year any table of causes. . . . But as one got to see more of the relatives, one gradually accumulates a considerable body of evidence, and this has been summed up and compared with Dr. Beach's experience at Darenth." These observations are as follows: The most frequent hereditary factor is phthisis, which is found existing in 28.31 per cent.; inherited mental weakness, 21.38 per cent. (16.47 per cent. family history of insanity, 4.69 per cent. family history of imbecility), whilst in 20 per cent. there was a family history of neurosis.

Fletcher Beach subsequently made some further studies alone at Darenth, and found heredity in 76 per cent. of these cases.

In 1856 the Legislature of Connecticut appointed a commission to investigate the causes of idiocy. The questions propounded were as to whether there had been idiocy, insanity, blindness, deafness, epilepsy or any other defect, mental or physical, in the immediate or collateral family of the idiot.

The commission reported that out of 164 cases it found 70 where heredity was undoubtedly the cause; in 10 cases idiocy in the parents; in 6 in the various relatives; 6 insanity in parents; 8 insanity in relatives; in 8 epilepsy of parents or relatives; in 2 blindness; 1 melancholia in father; 13, dementia following insanity in relatives; and in 16 one or more of the defects mentioned, but not designated.

In the census of 1873, taken at Berne, 55 per cent. of the idiots came from neurotic families.

Dr. Langdon Down, who has made an interesting series of investigations in 2000 cases, reports 45 per cent. as caused by various neurotic affections in one or both parents. If the mother were afflicted, the first children born were the sufferers; if the father, the later children.

Haller cites the cases of two imbecile women of noble birth and immense wealth who married, and many of whose descendants for more than a century, even to the fifth generation, were idiots.

Esquirol reports the case of an idiot woman at the Salpetriere who bore three idiot children.

Dahl made careful comparative studies of the ancestry of 169 idiots and 151 insane. In the former he found 84, or about 50 per cent., had insane relations. In the latter there were 58, or about 38 per cent., whose relatives also presented marked symptoms of idiocy and insanity. Of these the parents of 18 insane and 21 idiots, about 12 per cent., also exhibited some mental defect.

Of the idiots there were 2 cases where both parents were mentally tainted, 6 where the father, 4 where the mother, 4 where some or all of the grandparents, and 5 where the great-grandparents were afflicted with mental disease.

It will be noticed that the great-grandmothers predominated in transmitting the taint, but Dahl gives no explanation of this.

Dr. James R. Dunlop reports the case of a weak-minded father and mother who had seven imbecile children. He was so much interested in the case that he made a number of careful investigations. For four generations there had been some evident neurotic taint, but it was not marked in the third. The progenitor was a neurotic, and was married to a fairly intelligent woman. To them were born four children, three males and one female. The female was an imbecile, and had a son, in no way peculiar, born out of wedlock, but whose father she subsequently married. She had no other issue.

Of the males, one is reported sane, one feeble-minded and another eccentric, if not imbecile. He married a healthy woman eleven years younger than himself. They had eleven children, seven of whom were imbecile or idiotic. One, Jean, has had an illegitimate daughter who was said to be normal. One, Thomas, a hypochondriac, was said to be peculiar in looks and manner, but not weak-minded. He married a sensible woman, and had an imbecile child. James, sane, but peculiar in manner, irritable and fretful, had eight children perfectly healthy.

Fletcher Beach also quotes an interesting case where the predisposition can be traced through four generations.

G. B., aged 15 years, an imbecile, paralyzed on left side. Her great-grandfather was not in full possession of his senses. The grandfather was reserved, and the grandmother excitable and peculiar. The father was a neurotic, ill-tempered and morose. The father's two brothers and one sister exhibited no peculiarity, but the oldest children of both brothers exhibited the same peculiarity as the patient (G. B.). The sister's oldest child is also peculiar. From the father spring G. B., whose eleven brothers and sisters died of spasms during dentition. It will be seen by this that the neurosis running through the family touches the

third generation but lightly, and intensifies itself in the fourth.

Two family histories of my patients are interesting studies in heredity:

A. B., apathetic idiot. Huntingdon's chorea has existed in mother's family for many generations. Maternal grandmother choreic, maternal grandfather phthisical. Of this marriage there were born seven children; the order of birth, ages and sex unknown, with exception of mother of A. B. Three alive and married, and extremely nervous. Have children said to be normal in every respect. The four deceased children, including mother, died of chorea.

Paternal grandfather and grandmother both strong and healthy, and lived to unusual old age. Their issue consisted of nine children, sex, age and order of birth unknown. All healthy.

The mother of A. B. was always delicate, and three days after marriage was attacked by chorea, of which she died after twenty-three years. She had eight children, the two oldest—male and female—said to be normal. Both married and have healthy children. Third, female, deaf and dumb; fourth, male, imbecile; fifth, A. B., female, idiot. Three children born after this, of whom nothing is known except that they died in early infancy of epilepsy, diarrhoea, and one was stillborn.

H. W., high-grade imbecile, eighth child, first born of twin in a family of fifteen, nine of whom are dead; four from convulsions in infancy, two stillborn, one from scarlatina, and two, including patient, of meningitis. Of the six children living, five are said to be normal, and one a shameless harlot, who is practically a paranoiac. Both father and mother came of pronounced neurotic families.

Father peculiar, morose, intemperate, and died in 51st year of apoplexy. His first cousin was an imbecile.

Mother is considered very peculiar.

Howe tells of three towns situated in close proximity to each other in which are a number of families where both parents and children are imbecile. He tells also where an indigent female idiot living in one town married, with the sanction of the town authorities, a male idiot, who was not a pauper, with three idiotic children as a result.

Dr. Isaac N. Kerlin, my master in the work, in 1880 presented a valuable paper on the "Causation of Idiocy based upon the Analysis of One Hundred Idiots and Imbeciles." He found 28 per cent. were caused by insanity and feeble-mindedness, and 57 per cent. by various nervous diseases.

In my own experience, based on a careful examination into the family history of 1044 idiots, I find 397 families, or 38 per cent., with a history of insanity or imbecility, and 225, or about 21 1-2 per cent., various neuroses.

There is one point so nearly allied to our subject as to demand at least a passing consideration.

Consanguinity is commonly accounted a fruitful cause of idiocy, but comparative investigation shows, first, children having both mental and physical defects, the offspring of healthy unrelated parents; second, perfectly developed children with no personal peculiarities whatsoever, the issue of consanguineous marriages. This would lead us to accept the statement that consanguinity has but little if any influence in the production of idiocy, unless there be some hereditary neurosis.

Heath maintains that if the blood be pure and uncontaminated there will be no bad results from such marriages.

A confirmation of this may be found in the history of the Hebrews, which gives repeated examples of consanguineous marriages where the intermingling of pure blood gives only good results, and idiocy is the exception rather than the rule.

The statistics that I have been able so far to gather run thus: In 1865 the poplation of Batz, Brittany, numbered 3300. Five marriages took place between cousins-german, thirty-one between second cousins, and ten between those of third degree.

The issue of the cousins-german was twenty-three children, free from all disease, both mental and physical.

The second cousins had 120 children, normal in every respect, and the issue of the cousins of the third degree were twenty-nine children, also perfect. Two women were sterile. But insanity, idiocy and nervous diseases were unknown in this community.

Dr. Kerlin found but 7 per cent. of his cases examined directly traceable to consanguinity.

In my own examination of 1044 idiots, I find but 3 1-3 per cent. On the other hand, consanguineous marriages where there is the least neurotic taint must always be marked by deterioration of mental power. Naturally, if the taint exist in both parents, the force is but intensified, and idiots are likely to be produced with peculiarities accentuated. A notable example of this is found in Switzerland, where, among the people secluded from the outer world in mountain fastnesses, intermarriage has been going on for centuries. Here, by repeated intermarrying, neuroses are preserved intact and idiocy ripens.

Among my own records I find an interesting case which I herewith present:

J. F., excitable idiot, born of cousins-german, in whose families were marked neuroses. Mother, always delicate, and finally died of phthisis. Father, emotional and silly to the verge of imbecility. The following is an account of their offspring: The family, a large one, numbered eleven in all. Four died in early childhood (diseases unknown), three living of whom I have no history, and four of whom I have records. First born, female, deaf and dumb; second born, female, epileptic; third born, male idiot; and the eighth born (patient), idiot.

Frequently idiocy appears as the outward and visible sign of the mental deterioration of a family where intermarriage has been frequent, especially one that has been noted for its intellectual qualities, and, according to Griesinger, it is a mark of degeneration in a race whose blood has stagnated, as, for example, in the Asylum of L., where many of the proudest names in England are borne by driveling idiots.

Esquirol says that it is simply impossible to enumerate the idiots in the noble families of France, among whom intermarriage is frequent, and also among the Roman Catholic families of England and Scotland.

We have considered to-night, not possibilities nor chimerical maybes, but grim facts gathered through years at much cost and pains, by patient, earnest, thoughtful, philosophic minds. Let us come up from their past with the lamp of experience they have placed in our hands to study the present and verify their conclusions.

What are the signs that tell of this enemy, who shall come in like a flood? What standard shall we lift up against him? It is said that the pulse of a nation's prosperity is found in its marts—the danger signals are read at its bourse.

Where shall we judge of the intellectual status of a nation but in its educational centres. Schools, colleges, universities multiply with unprecedented rapidity over a land which has just celebrated its fourth birthday among the centuries of civilization.

Through these corridors, out from these doors, press in mad haste for the arena of life, young men and maidens, warm blood, freighted in many cases so fatally with the miasma from some remote ancestor, often doubled and quadrupled in intensity by consanguineous marriages, waiting but for this unhealthy and artificial atmosphere to develop into abnormal growth.

Do we ask why are the hopes of fond parents so often blighted? What becomes of these fair buds of promise?

Go find the answer in those other schools which are growing apace in our midst, dotting from ocean to ocean our own fair land, while others stretch out appealing hands to us—schools, public and private, which offer no prizes, nor hope of diplomas, yet which are also multiplying with frightful rapidity in response to the agonized cry of the Rachels weeping for their children, and who will not be comforted, because they are not.

The attention of many medical men is drawn to the influence of intemperance in parents as a cause of idiocy. The statistics, however, prove too meagre and the statements too unreliable for us to base any definite conclusions.

The Connecticut commission found 32.34 per cent. My own experience shows 18.38 per cent.

Langdon Down lays special stress upon the intoxicated state of the father at the time of conception, an opinion advanced years ago by Toussenel, and verified in one instance in my own practice.

Ludvig Dahl agrees that to the abuse of brandy by the fathers, and also to some extent by the mothers during pregnancy, may be assigned the most important influence in the production of the large number of idiots in Norway.

Upon the influence of phthisis, held by many as an important factor, I have not entered, as it is largely embraced in the points already elaborated.

The last example I have to offer, and by far the most appalling on record, is that of the family known as "The Tribe of Ishmael," whose history, traced through a period of forty years, shows descendants of one unclean, neurotic man, multiplying by consanguineous marriages into two hundred and fifty families, numbering some five thousand individuals, whose continuous criminal record has poured over the Northwest a flood of imbecility and crime.

Can we, in face of such evidence, refuse to accept inheritance as one of the fundamental laws of life?

The mark of the beast is ever present—the spoor of the wild animal remains—and to-day we trace it not only to the third and fourth generation, but on ad infinitum.

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DEATH UNDER CHLOROFORM.

The recent death of a young child under chloroform was the occasion of introducing an important question as to the consent of the parents, says a recent issue of the London Lancet. The infant son of a laborer suffered from convulsions and difficulty of micturition, and on July 6, being then 12 days old, it was brought by a nurse to Dr. C. E. Duff, to whom we are indebted for notes of the case. Finding that the prepuce hardly permitted the passage of a probe he recommended circumcision, which was accordingly performed on July 8 at a district nursing home. Chloroform was administered; the child took it well, and was afterwards sent home. On July 15th some hemorrhage occurred from the suture on the dorsum having cut its way out and allowed the skin of the penis to come forward on the glans and form ex-

tensive adhesions. Dr. Duff told the mother to bring the child next day to the district home in order that this might be put right. She accordingly did so, and held the child on her knee during the operation. Chloroform was again administered, and the child took it as well as on the previous occasion. The adhesions were broken down with a probe, the skin was stitched to the corona and the bandaging was finished, when it was observed that the child (who had been coming to nicely) had ceased breathing. The pulse was still beating and the galvanic battery, artificial respiration, etc., were resorted to, but the patient did not revive. The child, though fully under chloroform, was never deeply under it, the total amount given being about two drachms on a towel in a hot room. The father afterwards informed Dr. Duff that another child of his aged eight months had already died in hospital under chloroform administered for the performance of a minor operation. There was no further confirmation of this statement, but if it be true it would seem to show that undue susceptibility to chloroform may, like other idiosyncrasies, run in families. The fact of this previous death was concealed by the parents, who feared that if it were known the operation would not be performed. An inquest was held, very much against the wishes of the parents, but it was exceptionally necessary, as they asserted that the operation had been performed without their consent. This statement, however, was contradicted by the nurse who attended the mother in her confinement, and whose evidence was to the effect that the mother had on five successive days urged her to have something done for the infant's relief. The mother further declared that she heard nothing about the use of chloroform on the first occasion until the child was brought home, and that she did not know that it was administered at the second operation. The coroner, however, pointed out that she must have seen the administration, and Dr. Duff stated that neither was any complaint made by the mother as to the chloroform nor was he informed before the operation that a member of the same family had already died under chloroform. If this had been brought to his knowledge an anesthetic would not have been given on the present occasion. At the post-mortem examination the body was found to be emaciated, but no organic lesions were discovered. The verdict of the jury was: "Death under chloroform properly administered in the course of a necessary operation."

ANGINA PECTORIS, GOUTY ARTHRITIS, AND DIABETES.

Ebstein, after relating in detail three cases, appends (Berl. klin. Woch, June 24, 1895) some remarks on the connection between these diseases. In two cases in which diabetes and gout occurred in fat individuals there were also anginal attacks. In one case gout preceded diabetes, but in the other the reverse was noted. Most often diabetes follows upon gout. Atacks of gout may alternate with the diabetic manifestations. Diabetes appears to be a more favorable disease in the gouty. In both cases the angina pectoris was the most troublesome complaint. The anginal manifestations occurred in the first case ten years after the first attack of gout, whereas in the other case the angina appeared at the same time as the diabetes, or even before it. Both cases were in the author's opinion genuine examples of angina pectoris. It is difficult to determine in these cases whether the angina was dependent on the diabetes or on the gout. In both diseases the anginal attacks may be of a functional character. In both his cases the author thinks that the angina depended on disease in the circulatory apparatus, as changes in the heart were noted in both cases, and probably aneurism in one of them. A sharp distinction cannot be drawn between angina caused by anatomical changes and that due to functional causes. The author has observed cases in which such anginal

attacks have existed during many years. The prognosis is, however, serious even if no change can be made out in the circulatory organs.

PAINFUL TEMPORARY PARALYSIS IN CHILDREN.

Brunon (Presse Med., June 29, 1895) discusses painful temporary paralysis occurring in young children. Out of 22 cases 2 had paralysis of the lower extremities, all others having the arm only involved. Out of 14 all but one were under 5 years old. In all there was an absolutely sudden onset, sometimes following the slightest traumatism; often no cause was observed. The paralysis is complete from the onset; amelioration is gradual. All passive movements are retained, all active movements are abolished, the arm hanging inert by the side. The child screams when the slightest examination is attempted. No anatomical lesion is found except occasional creaking of the joints. Recovery takes place in from 24 hours to a week. Most authors take the view that there are in such cases anatomical lesions, such as subluxation, stretching or twisting of ligaments. Brunon believes with Chassaignac that in the cases in question any idea of fracture, dislocation, or tearing of ligaments may be dismissed, as no deformity, ecchymosis or interrupted movement of joints can be found. A differential diagnosis is needed between this and the form of paralysis due to partial dislocation of the head of the radius, a pathognomonic sign of the latter being the impossibility of supination. In 17 cases of this nature 2 only held the arm hanging straight. In the 22 cases under consideration all hung limply by the side and could be freely flexed, pronated or supinated. The initial lesion may be an injury to ligaments, but examination fails to localize the injury. Pain is general from shoulder to finger tips. The condition appears to be due to a reflex inhibitory action, of which other examples are numerous, and which affords a rational explanation of the paralysis. Mechanical, emotional or psychical stimuli are known to produce such conditions. An intellectual factor, the memory of the initial pain, explains the persistent crying of the child, the fear of being touched. There is no pain when the child is not handled. Much depends on the influence of suggestion made by those in charge of the child. In one case in which Brunon was able to make a diagnosis before seeing the patient, he was able to manipulate the arm freely from behind a curtain, while on his attempting to do so openly the child at once began to scream. An analogous case is cited of a child who was not allowed to see his crushed finger for three weeks until the new nail began to grow. At the sight of it he cried as if in pain, and kept the finger extended, not attempting to use the hand for two days. The spontaneous cure of these cases as memory fades seems to corroborate the view advanced.

THE CHEMICAL PHENOMENA OF OSSIFICATION.

The chemical phenomena of ossification. Chabrie says: The transformation of the fundamental cartilage into bone corresponds to chemical reactions of which the following are the principal. A substitution of the group, N. H2 to O. H. and an oxidation. This change may be accomplished under the influence of ammonia or its salts in an alkaline medium acting on this substance. This, shown in the laboratory by the action of ammonia salts on chondrine, seems to be formed in the organism by the intervention of urea, and bone formation is formed by the intra-organic production of the urea, which is carried by the blood, and this latter acts by its histological elements on the chemical reactions of caleification of cartilage. We know that only ossifiable cartilage contains blood vessels, therefore the element of the blood must take an active part in ossification. Also we know that Carb ammonia destroys the blood globules and that the globules are found in the cartilage at the moment of ossification. As the salts of am-

monia have been shown necessary to the transformation of the organic parts of cartilage their presence in the growing bone cells is not doubtful and blood globules submitted to their action are destroyed, setting free lecethine, which is one of the preponderating causes of calcification.

If the forming bone contains lactic acid as in osteomalacia, the organic cartilage-forming material does not become collagene. Again acids suponify lecethine and decompose it into fatty acids. In osteomalacic bones a large part of the lime is replaced by magnesia.

Medicine.

IN CHARGE OF
DR. E. W. BING, Chester, Pa.

A CURIOUS JUDICIAL AFFAIR.

On the 21st day of January, M. E., Health Officer of Deux-Sevres, wrote the following prescription:

Chl. de Cocaine.....	0.01 c gm
Sacch.	0.08 c gm
Acetum (wine vinegar)	0.02 c gm

For a cachet. Send two.

The prescription was presented to M. B., a druggist, who, while considering it singular, filled it. On the following day the patient observed to the doctor that the medicine had no effect. The latter opened some of the cachets and said they were empty and accused the druggist of fraud. The police called in would not take action, as they thought the doctor might be mistaken. The pharmacist in the meantime entered suit for libel. The Court retained an expert, who found on analysis half the amount of alkaloid and the same of sugar. He attributed the loss to the action of the vinegar, which, without any remedial effect of its own (half drop doses), had destroyed the effect of the cocaine. The case went through several tribunals and ended by fining the doctor 200 francs fine for damages, which was raised by the Superior Court to 500 francs, and declared the pharmacist free from any blame in the matter.—La France Med.

TREATMENT OF ACUTE "INFANTILE" ENTERITIS.

Graucher says the clinical and therapeutic indications depend on the diet of the child at the breast, on the bottle or during weaning. All errors in diet must be remedied, as they are the frequent cause of enteritis.

If enteritis exists, intestinal lavage with a quart of boiled water is practised. The child is turned from side to side to thoroughly wash the bowels. For fetid diarrhea—Injection of 5 cgms. of calomel, and also by the mouth one drop of laudanum each hour. Vomiting is combated by stomach lavage. Watery diet of egg albumen—No food till diarrhea is stopped; where stimulants are required, champagne. In convalescence an absolute milk diet is given for the first day, with boiled or sterilized milk, in tablespoonfuls every hour. The quantity is increased every day until the normal quantity per day is taken. After this regular diet may be substituted.—B. de Therap.

TREATMENT OF TYPHOID FEVER IN CHILDREN—BERGE.

Alimentation—Reduce the quantity of milk in nursing children to one-half and give boiled water or rice water. To somewhat older children, milk soup, rice water and honey, lemonade with wine. Abundant water drinking favors elimination of the toxines.

Treatment of the infection varies according to cases. In light cases in young children, twice a day a mixture of equal parts of quinine and benzo-naphthol or velol is given, in doses varying according to age. For a child of 6 years, 40 cgms. of each in 24 hours. Every two days 10 to 15 grms. of citrate magnesia. Every day an injection of boiled water is used. In severe cases Brand's treatment by cold baths is used, preceded sometimes by large doses of quinine. Benzo-naphthol, etc., is given. If the stools are very fetid calomel is given hourly in small doses. Marfan advises cold baths on the following plan:

The bath is given first at 22 de-

grees C.; then chilled to 20 degrees; next at 20 degrees and cooled to 18 degrees. Duration about 5 minutes; cold effusions to head while in the bath; then wrapping in thick blanket and a warm drink administered. The temperature is taken every three hours. If it rises above 39 degrees a bath is given. The cold bath sometimes provokes apnea, and then the child should be immediately taken out and rubbed vigorously, and if necessary rhythmic tractions on the tongue are used. To prevent the secondary infections perfect cleanliness of all the inlets and outlets of the body must be maintained and excoriations or sores must be carefully attended to.

A substitute for gutta-percha:

Tar (pitch) 1 part.
Paraffine 10 parts.
Rub together and add caoutchouc 2 parts.

Have the mixture at 120 degrees C. till it forms a homogeneous mass.

Hot baths are recommended by Auprecht and Vorvehilsky as a remedy in cerebro-spinal meningitis. They have proved successful after all the usual treatments had failed. They were used every day at about 40 degrees C. and for 10 minutes.—Rev. Med. Clin.

THE NECESSITY OF CONTINUOUS TREATMENT BY BROMIDES IN CASES OF EPILEPSY.

Fere shows that in consequence of recurrences even after a lapse of six or eight years that the duration of treatment in epileptics is almost indefinite, and that the bromide becomes a necessity to the apparently cured individual. He mentions a case in which there was a suspension of the attacks for 12 years. During ten years following the patient took bromides. Convinced that he was cured he suspended treatment for two years. At the end of this time he had frequent attacks, which did not cease till after a year's treatment with large doses. The aim of treatment should be to suspend the disease rather than to cure it by the use of the bromine compounds. Their efficacy can only be obtained by long-continued administration. This method is harmless when properly directed. Intolerance can only be determined by individual experiment. Fere considers that intestinal antiseptic is the best means of avoiding bromization.

THE USE OF THE BICYCLE.

In the Journal des Sciences Medicales de Lille for August 3, M. H. Lavrand gives a resume of a discussion in regard to the bicycle which took place at a recent meeting of the Societe de Medecine.

M. Lucas-Championniere presented the question from a hygienic point of view. The bicycle, he said, had been condemned as a means of exercise for women, and had been thoughtlessly compared to a sewing machine, to which it was not at all analogous. It had been said to cause deformity, but this accusation showed a want of reflection and a profound ignorance of anatomy and of physiology. In reality, all the muscles came into play in order to propel the machine and to keep one's equilibrium; consequently the vertebral muscles could not but increase in size and in power. The first action of the bicycle was to develop the muscles, not only those of the legs, as was commonly believed, but all the muscles of the body, and in this exercise M. Championniere thought we had the most perfect method for muscular development. Its action on the general health was also evident. The manifestations of nutrition were profoundly modified; an examination of the urine had shown this. The increase of the proportion of urea had indicated a greater waste. The influence on the heart was also very evident, and any excess in this exercise was prejudicial. One of the most valuable advantages of this form of exercise, however, was that it put the heart into a good condition of resistance. With regard to the benefit to the lungs, it might be said that the good

results were almost immediate, if care was taken to avoid the chill which was always apt to follow any prolonged exercise.

M. Marcel Brand thought that this form of exercise was the best that could be employed in the treatment of the vicious habits of adolescence, and he cited several cases in which recovery had been obtained when all other treatment had failed. The majority of affections dependent on the diminution of nutrition were favorably improved by the motion of the treadle. With regard to neuropathies, he said, the most favorable results had been obtained after a moderate use of the bicycle, and certain tabetics had derived much benefit from its use.

M. Bouloumie presented the subject from a therapeutic point of view. He stated that he had recommended the bicycle to several gouty persons, who, after using it, had not suffered so much with stiffness in the knees and in the tibio-tarsal articulations, which had become much stronger and more flexible. The general condition also had been benefited. In persons suffering with subacute nephritic colic from uric acid gravel, and presenting frequent and continual pains in the kidneys, without renal inflammation, the exercise seemed to facilitate the passage and expulsion of the calculus and to diminish the pains. In such cases the patients must be warned against excessive exercise, as any fatigue was extremely harmful. For persons affected with urinary and digestive disorders, principally liver troubles, an upright attitude in the saddle, with the body resting squarely upon the ischia, was absolutely indispensable. In this way all parts of the body would contribute to the maintenance of the equilibrium, the abdominal organs were not compressed, the action of the diaphragm was not hindered, and the circulation was not impeded at any point. This exercise, on the whole, said M. Bouloumie, was one which favored the development of the muscles and regulated the principal functions, and it could be recommended from a physiological, hygienic and therapeutic point of view, subject to these conditions: I. A good position in the saddle. 2. A proper saddle. 3. A moderate rate of speed.—N. Y. Med. Journal.

THE TREATMENT OF ICTERUS DUE TO RETENTION.

Dunjardin-Beaumetz believes in treating such cases by thorough intestinal antiseptic measures. Of the drugs used for the purpose, such as salol, benzo-naphthol, and the salicylates, he favors the salicylate of bismuth, and considers asaprol even superior to the latter remedy. A medicament that has rendered good service is calomel, acting as a purgative and antiseptic at the same time. Care should be taken, however, in administering it for a long time, lest ptyalism be produced. The author insists that bismuth, salicylate and asaprol and particularly laxatives and a hygienic alimentation, constitute the best treatment for icterus due to retention. Among the laxatives mention is made of podophyllin, cascara, and cascarine. Of mineral waters, those of Rubinat (Condal water), Carabana, and Vilacabras, in Spain, are recommended. Carlsbad salts are also spoken of as of service in the malady under consideration, being said to cause liquid stools without determining colicky pains or intestinal congestions. Diet must be mainly of a vegetable nature. When the gastric disturbance is marked, the ingestion of diastase is of advantage, and this should be given preferably after meals. Lastly Vichy and Carlsbad waters are thought to exercise a curative action, by influencing the activity of the liver and causing an amelioration of the nutrition in general.—Bull. Gener. de Therapeutique.

THE MICROBIOLOGY OF ACUTE PERITONITIS.

Courtois-Suffit, in his recent monograph on "Diseases of the Peritoneum," classe first in order among the pathogenic microbes in peritoneal in-

flammations the bacillus colicommunis (The Boston Medical and Surgical Journal). This micro-organism is a facultative anaerobic, a normal inhabitant of the intestines, but pathogenic under morbid conditions such as occur in all kinds of peritonitis of intestinal origin. Its presence has long been recognized in peritoneal exudations, while it is constantly found in septic peritonitis following intestinal wounds, perforating (gastric, typhoid, enteric, appendicular) ulcers, ischio-rectal abscess, cancer of the colon, hernia, thrombosis of the mesentreic vessels, etc. It has been affirmed that under certain circumstances, as when disordered circulation, strangulation, extreme fecal distention, undue pressure, or mechanical injury has impaired the integrity of the bowel and lowered tissue-resistance, this bacterium may become migratory, gain the peritoneum, and excite inflammation. Cornil found such bacteria actually in the substance of the wall of a partly necrosed intestine. The possibility of such migration may explain many cases of so-called idiopathic peritonitis attending stercoral impaction, severe bowel inflammations, etc.; the germs passed through the intestinal walls and provoked peritonitis. It is doubtful if peritonitis has ever followed cystitis, yet Achard and Renaut have proved the identity of the colon-bacillus with the bacterium pyogenes of the bladder. The pneumococcus has very rarely any causal relation to acute peritonitis, whether the infection occur as a sequel to pneumonia or independently of that disease. The streptococcus pyogenes has been found in the pus of a great many cases of peritonitis, where it existed to the exclusion of every other micro-organism (post-operative and puerperal peritonitis).

PRESCRIPTION FOR ASTHMA.

R. Ammon idodidi ....dr. ij.
Ext. grindelia rob..f oz. ss.
Tr. lobeliæ .....aa dr. j.
Tr. belledonnæ ...aa dr. j.
Syrup pruni virg.....dr. j.
Aq. dest.
M. Sig.: Teasponful three times a day.
—Med. Review.

Surgery.

IN CHARGE OF
DR. T. H. MANLEY, New York.

JOINT TUBERCULOSIS.

About 90 per cent. of chronic joint diseases (in America) are of tuberculous character. Of these, fully 80 per cent. can be cured by the timely use of iodoform in the joint and guaiacol internally.

Of course, in the early stages, particularly in hip-joint disease, nothing is so acceptable as the treatment by fixation. If the cases be seen early enough immobilization by plaster-of-paris, silicate of sodium, or some form of apparatus, will cure a majority of patients. Particularly is this true when guaiacol in doses of three to five minims three times daily, or a corresponding amount of the carbonate of guaiacol is given for several months.

But, unfortunately, most of these patients are not seen until too late for fixation to be of marked advantage—the tuberculous deposits have begun to break down into pus, or at least the synovial membrane is already involved so that the joint presents the characteristic symptoms of this grave disease. Even now cure can usually be secured by the internal use of the guaiacol and the intra-articular injection of a 10 per cent. solution of iodoform in pure glycerine. This emulsion must be most carefully prepared, so as not to infect the joint. If there is any question as to the cleanness of the mortar, pestle, iodoform or glycerine, the emulsion must be heated at 212 degrees for some minutes and then be kept in a wide-mouthed bottle perfectly clean. Of this, from two drachms to an ounce may be injected with an aseptic syringe, preferably the one devised by Senn. For a day or two the patient must keep quiet, just until reaction is gone, and then go on using the limb as if nothing had happened. The injection may be repeated every two or three weeks until all symptoms have disappeared.

I have cured cases of well marked tuberculosis, even "white swell-

ing" of the knee, with not more than three injections. It is perfectly wonderful how this cure follows, but it is almost absolutely sure to result if the iodoform be properly prepared and used.

Of course when sinuses have formed there is nothing to be done except to open the joint and scrape away all the diseased tissue—rarely resecting. But in children, even when large portions of the joint are curetted away, a useful joint is eventually secured.

So, upon the whole, chronic joint diseases are of not so bad a prognosis nowadays as we were taught but a few years ago to believe. All can be benefited; most cured.—Emory Lanphear, M. D., in Medical Brief.

A SUGGESTION TO PREVENT NAUSEA FROM THE USE OF ANESTHETICS.

That the mental attitude which patients entertain toward an anesthetic as they pass under its influence has everything to do with the degree of disturbance which they experience from it, has been demonstrated so many hundreds of times that it is no longer a debatable question. The force of suggestion so powerful in such cases should be utilized much more extensively than it is. Sometimes a sentiment of fear, dread or disgust is just profound enough to induce a stomach to unload its contents by way of the mouth Sometimes it is profound enough to induce violent retching even when the stomach is empty. Sometimes it is so profound that instead of causing nausea and retching it stagnates a lung into pneumonia, a kidney into nephritis, a liver into hepatitis, or a brain into meningitis. That serious consequences following a properly administered anesthetic are in most cases a product of apprehension and mental hostility to the proceeding on the part of the patient is perhaps not generally admitted to be a fact, but we believe as the profession awakes to the stupendous action of mind over matter its opinion upon a good many subjects is very liable to undergo radical changes and the ideas as to the causes of the ill effects which follow anesthetics will be found among those that will be most radically transformed Fear can pale the face, it can sweat the entire integument, it can produce incontinence of urine and feces, it can induce insanity and death. Most surgical operations, especially in private practice, are attended with an atmosphere of the most intense fear and apprehension which affects the patient, the friends, the assistants, and even the surgeon himself. This intense pall which inaugurates most operative procedures is by no means conducive to the highest type of surgical achievement. It makes the surgeon awkward, puttering, and oftentimes reckless and clumsy in his operations. It makes the assistants awkward and inefficient and occasions no end of mistakes and delays. It makes the friends obtrusive hindrances to the accomplishment of whatever is necessary, and it produces a terror-stricken condition of the patient, which bears the anesthetic poorly, wakes him with fright, worries him into septic conditions and prejudices his recovery.—Dr. E. H. Pratt, in Jour. Orificial Surgery, August, '95.

CHLOROFORM DURING SLEEP.

The following case is of interest as bearing on the question whether a sleeping person can be chloroformed without awakening.

The reporter was asked to take two teeth out for a girl aged 7, and, as she is very timid and excitable, to give her chloroform. On going to her home he found her lying on her back in bed sound asleep. Having poured about two drachms, probably more, of chloroform on a folded towel, he gradually brought it to about two or three inches from her mouth and held it there. She went on breathing quite quietly, and neither coughing nor making any unwonted movements. In a very short time she she was so well under its influence that her hand fell down when raised, and the conjunctiva was insensible to touch.

She was then lifted out of bed,

carried into another room and laid on a sofa, without her giving any sign of consciousness. On opening her mouth, however, she put up her hands and turned her head on the pillow. More chloroform was given, and almost immediately she was in a state of complete anesthesia and the teeth were extracted. She was easily aroused, but almost momentarily fell asleep again and slept for two hours. When she awoke she was much astonished to find her teeth were out.—Therapeutic Gazette.

TREATMENT OF TUBERCULOSIS OF THE JOINTS.

Professor Rydygier, of Krakow (Przeglad Lekarski, No. 15, 1895), read a paper on this subject at the Seventh Congress of Polish Physicians in Lemberg, his conclusions being as follows. 1. That conservative treatment should not be looked upon as a competitor of operative treatment; on the contrary one should be complement of the other. 2. The treatment chosen in a given case should depend on the social position of the patient, his age, general state of health, local changes, and on the joint affected. 3. If there is a distinct suppuration of the joint, with inclinaton to spread and destroy the joint, it is necessary to operate. 4. The better the method of conservative treatment the more we can limit the operation. 5. The best method of conservative treatment is that which permits the patient to profit by fresh air and movement such as will not expose the joint to irritation. 6. The best method of conservative treatment is that which best permits of the removal of the morbidly degenerated parts without any special regard to later action of the joint; in some case, however, the complete removal of the joint is advisable. 7. Operations performed too late increase the statistics of conservative treatment, but are not advantageous to the patients, while too early operations only injure unnecessarily. 8. In addition to local treatment, sea air and suitable baths are recommended as general treatment. Medical and Surgical Reporter.

TOTAL EXTIRPATION OF THE RECTUM.

Vanderlinden and de Buck (La Flandre Med., March 7) claim that partial resection, or even total extirpation, of the rectum for cancer is abundantly justified where at all practical from the point of view both of its immediate and ultimate results. They record two successful cases of this kind. Case 1.—A multipara, aged 31, in August, 1892, gave a history of a year and ahalf of pain in the lower belly, constipation, difficult defecation, grooved feces. For a year glairy mucus, blood, and yellowish fetid sanious liquid had been passed with the feces; marked loss of appetite and body weight. Per anum a growth was felt, ulcerated in places, extending 7 ctm. from below, and invading the whole circumference of the rectum, with its greatest thickness posteriorly. The summit of the growth was easily reached, and the whole tumor could be moved downward. The operation was performed on October 30, 1892. The dorsal position was used, with the pelvis raised, and thighs strongly flexed on the abdomen The anus was surrounded by two short incisions, which joined in front and behind. A posterior median incison was prolonged from these to the coccyx. The anal canal and rectum were dissected out as far as 3 ctm. above the growth, where section of the bowel was made. Suture of the bowel walls to the skin wound completed the operation, which lasted an hour. The patient returned home at the end of four weeks, and three months after had gained 10 kilos. in weight, and could already retain firm stools. There has been no recurrence up to the present time. The growth proved microscopically to be a lobulated epithelioma. Case 2.—C. D——, aged 52 married; no children. Three years' history, commencing from the climacteric, and in its details very similar to Case 1. Two indurated ulcerated masses were found in the anal region. The rectum was invaded in its whole girth by a soft, yielding, easily bleeding tumor, whose summit reached with difficulty

10 to 11 ctm. above the anus. Operation Feburary 24, 1895. Left lateral position, thighs strongly flexed and pelvis raised. The incision ran from two fingers' breadth below the posterior superior ilias spine along the groove between the glutens maximus and sacrum toward the median line as far as the summit of the coccyx, then surrounding the anus. The masculature of the buttock was detached, the insertions of the great and small sacro-sciatic ligaments cut, and the coccyx extirpated. A part of the left side of the sacrum was removed, the abundant bleeding controlled, and the rectum isolated, commencing with the anal aperture. The peritoneum was opened and isolation of the anterior rectal wall. The bowel was cut transversely 2 ctm. above the growth, and its end, slightly twisted on its axis, was sutured to the borders of the skin wound. The operation lasted an hour and three-quarters, much blood being lost. A large quantity of NaCl solution was therefore injected, and, except for two days' fever, the patient did well, and at the date of report was convalescent.—British Medical Journal.

THE SIGMOID.

Bladder, prostate, uterus and ovaries sympathetically share in the miseries due to a diseased sigmoid. Women complain of uterine and ovarian pains, lumbago, associated with a somewhat persistent insomnia, and usually are subjected to the annoyance of irregular menstruation. In both sexes the sphincter vesice is unduly exercised and the bladder only tolerates small quantities of urine, which makes night rising to empty that viscus a necessity. Lesions in the hemorrhoidal inch, or lesions in the sigmoid, often produce atony of both colon and rectum. Owing to this atonic condition the sigmoid sometimes assumes enormous proportions, and the ampullar portion of the rectum does likewise. Under such conditions, the constant tendency manifestly is to accumulations of fecal masses that stretch and attenuate the walls of the gut. These are the cases that often go on unrelieved until a solution of the continuity of the alimentary wall takes place and a fistula or ischio-rectal abscess forms. Waste of sympathetic nerve force here prevents the maintenance of that adequate tonicity in the circular fibres of the gut which governs the dimensions of its lumen.

Through this same influence of wasted ganglionic nerve force do I account for atheromatous degenerations of the blood vessels of the brain, and the distension which often goes on to the point of rupture, and the creation of that condition known as cerebral hemorrhage. I have given this matter no little thought and am growing firmer and firmer in my conviction that it is correct.

Fecal accumulations may be a cause of atony of the colon or a sequel. My opinion, however, is that deficiency of nerve stimuli is the great prevailing influence that puts an estopper on intestinal peristalsis and that accumulations naturally follow; hence, it seems to me we find fecal accumulations infinitely more often the effect of atony than its cause.

These cases become so bad from wasted nervous energy, extending over a series of years, that there is absolutely no expulsive power left, and feces have to be mined out with the fingers. Inflammation of the sigmoid section of the colon is usually associated with chronic proctitis, so that the patient is subjected to the double miseries these diseased localities inflict. By employing a rectal speculum or one of the sigmoid pattern, aided by natural or artificial light, chronic proctitis reveals the ampulla of the rectum as a flabby pouch, with the mucous membrane showing itself in the throes of inflammation, with here and there samples of tenacious mucus frequently tinged with blood. Some of this comes from the mucous membrane above the sphincter of O'Beirne, and some from the ampullar surface of the rectal mucous membrane.

The visible product of chronic inflammation of the colon and rectum

is shown in an organized mucus, sparingly or generously secreted according to the status of the case. I saw a specimen a few months ago, furnished to me by a lady from the southern portion of the city, and it completely filled a half-pint whiskey flask. It was all passed at one stool; although more yellow, it resembles in consistency and formation diminutive oysters. Again, it will come away in long stringy sections. Vigorous laxatives cause the large intestines to relieve themselves of great quantities of this chronic inflammatory exudate. After a copious discharge of mucus there is usually some pain or discomfort in certain places along the course of the colon, doubtless due to the uncovering of nerve filaments. These lesions keep on manufacturing mucus, and with it are generated gases, ferments, ptomaines and pernicious alkaloids. As the mucous membrane of the large intestine speedily takes up nutritive commodities thrown into it by rectal feeding, so will it take up and distribute throughout the blood and lymph channels these lethal products thrown off from the face of intestinal lesions. As the farinaceous foods are trying to intestinal digestion, they should be eschewed in these cases.

To examine the sigmoid to any considerable extent above the sphincter of O'Beirne, a fenestrated explorer must be employed By introducing it, armed with such a sized pledget of absorbent cotton as will snugly fit the fenestrum, it can be introduced and withdrawn, reintroduced and withdrawn, penetrating a little further each time until the exact location where pain is induced and where morbid secretions come from can be accurately determined. In this way, by changing the cotton which arms the explorer, using a greater or less quantity according to the necessities of the case, can the calibre of the gut be determined. This is not an unimportant point, as we often wish to know, before passing a rubber bougie or giving local treatment, how large the dimension of the canal is.—By T. Eldridge, M. D., in Jour. Or. Surgery.

PHLEGMASIA DOLENS.

The next paper read was by Dr. Campbell, of Seaforth, Ont. It consisted of a report of two cases of phlegmasia dolens occuring in his practice, one a few years ago and the other recently, with the treatment of the same. Both had a fatal termination, but from different causes. In first case the woman had varicose veins of the leg in a pronounced degree, which laid her up two weeks before labor. After confinement multiple abscesses formed along the course of the femoral vein, developing a well-marked case of peri-venous cellulitis, resulting in blood-poisoning and death from exhaustion on the ninth day from confinement. The second case was also in a woman who had borne several children. The woman was delivered of twins after an easy labor. She lost a good deal of blood, and the doctor had to remain two hours with her after delivery. On the fifth day she took a severe chill, which was followed by high fever and rapid pulse The milk was secreted abundantly. The lochia were not suppressed. There were no signs of inflammation or puerperal fever. The usual treatment was pursued, but the temperature ranged from 101 to 102 1-2 degrees. On the evening of the ninth day after delivery patient complained of pains in the calf of the left leg, and a well-marked case of phlegmasia dolens developed, and it bid fair to run a mild course On the sixteenth day after delivery another physician saw her and pronounced her to all appearance out of danger She thought herself she might get up, and it was to decide this point the consultation was called

On the evening of the same day she was taken with pain in the calf of the other leg, which the friends, contrary to the doctor's warning, rubbed. They turned her over on the side; they even made her sit up. Her face turned purple; she gasped a few times, and died. Death took place from embolism in the pulmonary artery. The following were the doctor's concluding remarks in both cases:

1. The swelling in both legs began at periphery. The first lost power of the limb, the second did not.

2. Both veins and lymphatics were involved in both cases, the veins being inflamed, the lymphatics obstructed.

3. The phlebitis was produced by the precipitation of the fibrine by the action of a septic agent, which had been either devoloped in the blood or had made its way into that fluid.

4. The predisposing cause in the first case, besides the hypnotic state of the blood in all pregnant women, was the varicose veins.

5. In the second case, besides the condition of the blood and a moderate varicose condition of the veins, the doctor believed that the loss of blood at the confinement was the great cause of the trouble, weakening an overstrained nervous system.

6. The modes of death were different, the first dying from pyemia, the second from thrombosis, producing asphyxia from arrest of circulation in the lungs.

7. The pathology of this interesting disease was still somewhat obscure, and much has yet to be found in reference to it.

DISCUSSION ON DELAYED UNION IN FRACTURES.

BY GEORGE A. PETERS, M. B., F. R. C. S., ENG.

In assigning as the subject of the "Discussion in Surgery" the question of "Delayed Union in Fractures," your Committee on Papers had in view the fact that while rapid and brilliant advances have recently been made in the more attractive fields of abdominal, pelvic, and brain surgery, our knowledge of the repair of injuries in bones, and the best methods of treatment to bring about such repair in a rapid manner and with a satisfactory result, is little in advance of the times of Pott, Liston and Syme. It can scarcely be that we have reached the ultimate degree of perfection in the treatment of these cases, because we occasionally—though, fortunately, not frequently—see results following fractures which are not satisfactory, either as regards the appearance of the limb, or as regards its utility, and in a few cases we may fail to get any union of the injured bones whatever. The latter result, viz, non-union, does not occur, according to Hamilton, Liston, Malgaigne, Norris and other authorties more than once in five hundred cases. Dennis claims to have seen 10,000 cases in which not one case of non-union ultimately occurred, though several required operation. But cases of the condition now under discussion, viz., delayed union, are much more common. We apply the term "delayed union," then, to those cases in which the fragments of the bone remain unattached to one another several weeks beyond the time usually requisite to bring about perfect restoration of the continuity of the broken bone. Very often without any extraordinay treatment union ultimately takes place in these cases, and they are thus rescued from classification in the deplorable list of ununited fractures; but such a narrow limit marks the boundary between the two classes that, in consideration of the one, we find ourselves necessarily overlapping the domain of the other.

In regard to the nature of the wound nothing perhaps is in itself so conducive to non-union as actual loss of bone substance, as in some gunshot wounds. Apart from this, the chief reason why compound fractures are more unfavorable than simple is that incidentally germs of suppuration will, in all probability, be carried into the wound and set up their baneful action. If it were possible in such cases to prevent suppuration, the mere fact of a wound of the skin communicating with the fracture would not, to any appreciable extent, delay union of the bones.

While it would be presumption on my part to attempt to give a systematic account of the treatment of fractures to this audience, and would be entirely out of place in this paper, yet I find it incumbent upon me to express some opinion upon the setting and general conduct of such cases

as from their nature or character are liable to become instances of delayed union.

In passing, I may interject the opinion that when the local conditions are such as to excite the apprehensions of the surgeon as to the ultimate result, he should, where possible, secure his own safety in case of litigation by consultation with a fellow practitioner as to the line of treatment to be adopted, as well as in reference to the prognosis given to the patient Another advantage of having skilled aid is that an anesthetic may then be given, if found necsary. And here I beg to enter a plea for the more general use of anesthesia in the setting of all, except the simplest, cases of fracture. In compound fractures, in fractures where there is great entanglement of the fragments in the soft parts, and where spasmodic muscular contractions are present, the surgeon is greatly hampered in making a diagnosis of the character of the fracture and in bringing the parts into correct apposition by the cries and expostulations of the agonized patient. Under such trying circumstances, the surgeon is too apt to content himself with an unsatisfying examination and an imperfect reduction, in the ill-founded hope that extension, or the restraining action of the splints, or the moulding power of the muscles will bring the parts into good apposition when the spasm has passed off.

Under anesthesia, however, the surgeon can usually satisfy himself as to the character and direction of the fracture; he can tell whether the fragments are or are not in correct relation to one another; and he feels no hesitation in putting the limb below the seat of the fracture through those very extensive movements which are sometimes necessary to disentangle the lower fragment from the muscles or fascia, or, what is still more difficult, to draw the soft parts off the sharp point of the upper fragment, which sometimes pierces muscles, fascia and even skin.—Canadian Practitioner, July, '95.

Note.—The author of above excellent essay must have misquoted Dennis, or else this author did not include intra-capsular fractures of the femur, which seldom or never unite. There are, moreover, not a few fractures, the so-called cushioned-joint and ligamentous connection following, which, though "united," are not ossified, and hence, cannot properly be regarded, as repaired, in its fullest sense.

T. H. M.

Gynecology and Obstetrics.

ARTIFICIAL ABORTION.

Garrigues (Amer. Gynec. and Obstet. Journ., June, 1895) believes that the conditions which justify artificial abortion apart from acute diseases are especially serious pulmonary tuberculosis, severe valvular heart disease, aortic aneurism, carcinoma not amenable to radical treatment, chronic nephritis, severe affections of the nerve centres, and present or threatened insanity. Abortion offers two dangers—hemorrhage and septicemia. The evacuation of the uterus should be conducted, under anesthetics, with every precaution. The cervix is dilated by means of conical hard rubber and expanding steel dilators until there is room enough at least for a curette, but if possible for a finger besides. The spongy endometrium should be removed thoroughly, as well as the fetus and membranes. Garrigues scrapes as long as anything comes out. Before scraping the uterus is washed out with creolin, and afterwards a quart of a 1 per cent. solution of that drug is passed through the uterus by irrigation. Drainage is not needed during the first two months; the vagina need simply be plugged for a day. Later the uterus should be packed with iodoform gauze, gradually withdrawn daily so as to give the uterus a chance of contracting well before the last of the packing is removed from four to six days after the operation. After the end of the fourth month the measures used for induction of premature

labor are indicated, especially dilatation of the cervix, introduction of a bougie, and packing of the cervical canal with iodoform gauze. No artificial abortion should be performed without a consultation report, signed by the consultants and kept by the operator.

TREATMENT OF SOFT SORES IN FEMALES.

Von Herff (Monats. f. Geburts. u. Gynak., June, 1895) has found that the treatment of soft chancre involves certain difficulties in women, especially if the disease be treated as in males, the patients taking no rest. Iodoform is so disagreeable that the patients often neglect to apply it according to prescription. Even when it or any similar therapeutic powder is dusted on the chancre, urine lodging between the labia after micturition and, above all, free vaginal discharges rapidly decompose the chemical agent, neutralizing all the good which it can do and increasing any offensive property which it may possess. The best treatment is immediate cauterization with phenol. The genitals must be well cleansed with sublimate first. The "sore" will then appear to be made up of numerous minute ulcers, but some separate ulcers are often to be found far off. Hence, the search for the full extent of the disease must be conducted in a good light. Then each ulcer is touched with a concentrated solution of phenol (acid carbol. liquefact., P. G., almost the same as B. P.; see Squire's Companion, fifteenth edition). A small, thin piece of wood, made rough at the end, is the best instrument for the purpose. The edges of each sore must be well touched up. Dry wadding is placed over the eschars. Hip-baths and weak antiseptic injections and lotions are then prescribed. About five days after the first application the parts must be examined. As a rule the sores will be found healing. Of course any ulcer still active must be touched with the carbolic solution. If not too late, this treatment prevents the suppuration of inguinal glands without requiring enforced rest.

Miscellany.

THE INFLUENCE OF FEVER AND LEUCOCYTOSIS UPON THE COURSE OF INFECTIVE DISEASES.

Loewy and Richter (Duet. med. Woch., 1895, No. 15) investigated the effect of an increase of temperature produced in animals by puncture of the brain (Sachs-Aronshon's method) upon the course of chicken-cholera, pneumonia, and diphtheria. The animals' temperatures were in this way raised for several days up to or even above 42 degrees C. They found that the animals under these circumstances withstood two or three times the usually fatal dose of the various bacteria mentioned, but that with 100 times the fatal dose the warmed animals died sooner than their controls. The best results were obtained with the pneumococcus, which can be definitely attenuated outside the animal body by growing at 42 degrees C. For the investigation of the effect of leucocytosis pilocarpin was first of all used, but later, on account of the disturbing poisonous effects of this drug, spermin was used. Intravenous injection prevented the fatal effect of three to four times the usually fatal dose of pneumococcus when the micro-organism was injected later than the spermin, but cure did not occur if the spermin was injected twenty-four hours after the pneumococcus; death was under these circumstances only postponed. The authors conclude that the organism has in leucocytosis and in fever protective mechanisms against infection.

URIC ACID AND ITS SOLVENTS.

Mendelsohn (Deut. med. Woch., May 2, 1895) discusses the solubility of uric acid in gouty deposits and in concretions. The solubility depends on (1) the amount to be dissolved, (2) the reaction of the medium, (3) the presence of other bodies. This last point has hitherto received but little attention. Non-poisonous bodies capable of dissolving uric acid in the

retort are also expected to dissolve it in the body, whether in the case of the blood or of the urine. The author has shown that even in the reagent glass these bodies lose their solvent action when urine is present. Uricedin does not dissolve uric acid, and yet it gives to urine uric acid dissolving properities. Lysidin is an extraordinary solvent for uric acid, but it loses these properties if urine is present. Thus bodies exist in the urine which by their presence alone annul the dissolving powers of lysidin, etc. It would appear that the extensive use of these agents is not only useless but may even be harmful. The author has searched for the bodies which hinder this solvent action. Neither the urinary pigment nor urea has any such action. The earthy phosphates were precipitated and filtered off. The clear fluid was then evaporated to dryness, and the residue ignited. Then it was found that the residue when dissolved had the same hindering action on the solvent powers of lysidin, etc., as the urine itself. The most important among these bodies in the residue is sodic chloride. A few granules of common salt exercise a similar hindering action. Lysidin and piperazin when not chemically pure have far less solvent action on uric acid, and impure uric acid is also much less easily dissolved. If lysidin or piperazin be added to blood serum, the resulting fluid dissolves uric acid nearly as an aqueous solution of these agents. If saline solution or even a granule of common salt is added, the solvent action is lost. In the blood the salts amount to only 0.85 per cent., whereas 16 to 17 g. of sodic chloride is excreted daily. Hence the difference between blood and urine. Thus uric acid is dissolved in the urine in a complicated and as yet ill-understood fashion. Certain mineral waters have the power of dissolving out uric acid within the urinary apparatus or in the urne, but the mode of action is not understood. The important point is not to study the properties of uric acid apart from its surroundings; the characters of the media in which the uric acid is dissolved must be investigated.

THE TREATMENT OF COMA.

FOR COMA FOLLOWING AFFECTIONS OF THE MENINGES AND BRAIN.

1. Place patient in a well-aired room.

2. Friction the entire body with alcohol and water.

3. Apply sinapisms to the legs.

4. Apply four leeches to the mastoid region, or bleed from the arms.

5. Give the following purgative enema:

R. Sodii sulphat .....oz. i..
Sennæ fol .....oz. ss.
Aquæ ad .....oz. viii.
M.

6. Practice rhythmical tractions of the tongue by the method of Laborde.

7. Feed patient with milk and bouillon, or, if deglutition is too difficult give this nutritive enema:

R. Yellow of two eggs.
Peptone (dry) .....oz. ss.
Milk .....oz. viii.

COMA OF INFECTION AND TOXICATION.

1. Give every hour a subcutaneous injection alternately of ether and caffeine:

R. Caffeine .....gr. xlv.
Sodæ benzoat ..... dr. i.
Aquæ bull .....dr. iii.
S. Dose, m. x.

2. Every four hours give a tablespoonful of the following:

Acetate of ammonium dr. i.
Tr. musk .....m. xv.
Essence of mint ....m. iv.
Tr. jalap .....oz. ss.
Tr. gentian .q. s. ad oz. iv.

3. Provoke diuresis by large injections of cold water (a quart and a half).

4. If poisoning is indicated, give the special antidote required, and induce vomiting by the subcutoneous injection of apomorphine—gr. 1-12.

NEUROTIC COMA.

Give the following enema:

Tr. valerian.....dr. iss.
Musk .....gr. xv.
Yellow of one egg.
Water .....dr. i.

Compress the carotid arteries with the fingers. Practice the rhythmical traction of the tongue, and pass interrupted electrical currents through different parts of the body.—La Tribune Medicale.